

## TECHNOLOGY READINESS LEVEL: 4

## US PATENT PENDING

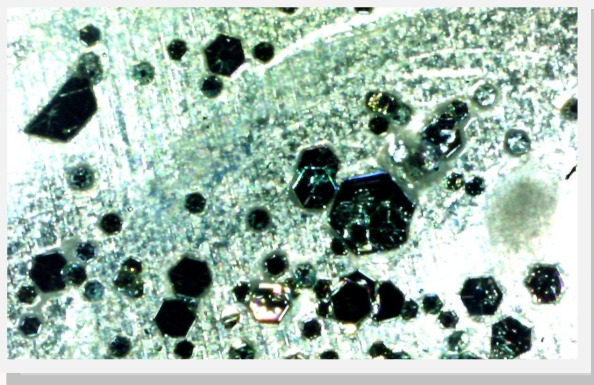
KEY ELEMENTS HAVE BEEN DEMONSTRATED IN LABORATORY ENVIRONMENTS.

## TECHNOLOGY SUMMARY

With counterfeit goods and company theft becoming a widespread problem, the importance of protecting valuable product is vital to the security of a company or country. Sandia National Laboratories has created an anti-counterfeit unique identifying tag and seal that will prevent the possibility of counterfeit or the removal, replacement, or relocation of a product or object.

Complex silicon-based micromachine artifacts are embedded in a custom formulated clear acrylic polymer blend and UV cured. The artifacts are placed upon a surface or joint to be marked or sealed. The pattern is recognized by a Sandia developed image analysis system that will establish a unique identifier that cannot be counterfeit.

The tag includes a silicon frame with alignment marks integral to it, surrounding and covered by the cured resin such that attempts to cut the seal in half by sophisticated methods will fail, since the silicon frame will break and not be repairable.



### POTENTIAL APPLICATIONS

- Aircraft and aerospace
- Computing
- Electronics
- Microelectronics
- Nuclear Power
- Public Safety
- International Safeguards

### TECHNOLOGICAL BENEFITS

- Field applied anti-counterfeit mark and seal
- Removal, replacement, relocation, and duplication tracking
- Extremely high verification confidence
- Suitable for mass production
- Enables high volume, automated scanning

### TECHNOLOGY INQUIRY?

For more information or licensing opportunities contact us at

**[ip@sandia.gov](mailto:ip@sandia.gov)**

Refer to SD # 11173

or visit

**<https://ip.sandia.gov>**